**Answer on Question #43350, Physics, Atomic Physics**

Calculate the minimum energy of a gama(?) photon in MeV which can produce one electron-positron pair [rest mass of an electron is $9.1 \cdot 10^{-31}$ kg].

Solution

Minimum energy mass exceed rest mass of pair, that is two mass of electrons ($m_e = 0.511\, MeV$). Hence

$$E_{min} = 2m_e c^2 = 2 \cdot 0.511 = 1.022\, MeV$$